

# The Prevalence of Intestinal Bacteria due to Hand Washing Habit and Snacking among Elementary School in Surabaya

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## Abstract

Elementary school age is the age which child really loved to play and to buy snacks at school. Therefore, there are so many health problems could threaten the elementary school aged children. The objectives of this study are to calculate the prevalence of intestinal bacteria on the elementary school aged children and to descriptive the intestinal bacteria whereabouts duo on children's hand washing and snacking habit at school. A descriptive observational with cross sectional design was used. Samples are 58 students at Elementary school in Wonokromo District, Surabaya. Data were collected using questionnaire and by examining the feces which taken and brought at the morning as requested. Laboratory testing was done to identify intestinal bacteria in feces. The results showed that prevalence of the intestinal bacteria in the elementary school aged children is 6.89%. The types of bacteria which found are *Escherichia coli* O157:H7 and *Shigella flexneri*. The prevalence of intestinal bacteria on children who always wash their hand is 4.2% and 13.6% founded in them who do it occasionally. The prevalence of intestinal bacteria on children who loved to buy snack at school is 6.9%. The result showed that there are only 3 children who didn't buy any snack at school.

**Keywords:** Intestinal Bacteria, Hand Washing, Snacking, Elementary School.

## I. INTRODUCTION

Elementary school age (about 6-12 years old) is the age where child really loved to play and to buy snacks at school and at the area around the school. Therefore, there are so many health problems that could infect elementary school aged children. A health problem that often occurs is the Foodborne Diseases. Foodborne disease is a disease caused by consuming food and/or drink contaminated. Foodborne disease is caused by a variety of microorganisms or microbial pathogens that can contaminate food or beverages. Foodborne disease is caused by microbes occurring through contaminated water, cutlery / drinking and intermediary vectors such as flies and cockroaches. Types of foodborne disease include food poisoning, diarrhea, dysentery, typhoid, cholera and others (Rozendaal, 1997). Foodborne disease risk behaviors in children at the elementary school age are usually related to personal hygiene and the habit of eating snacks that are less well at school. Elementary school children have immunity that are more vulnerable than adults. Surabaya City Health Department data showed that the increasing number of diarrhea were addressed to children aged 5-14 years. In 2014, there were 4,131 male and 3,968 female who got a diarrhea and it increased with 4,220 male and 4,019 female. The increasing cases of diarrhea among school children is one proof that the hygiene of street food is still a concern :however; children spent most of their time in school and consumed foods that do not have safety level guaranteed . In addition, children at the school age tend to have a poor Clean and Healthy Lifestyle (PHBs) , especially at school, so there are chances of microbial pathogens such as *Escherichia coli* and *Shigella flexneri* to enter into their body. The objectives of this study are: (1) to calculate the prevalence of intestinal bacteria Among elementary school children and (2) to describe the intestinal bacteria whereabouts children's hand washing and snacking habits at school

## II. METHODS

A descriptive observational with cross sectional study design was used. Research in Elementary School in Wonokromo sub-district in Surabaya. The population in this study were all children and still active as the fourth and fifth grade student. Samples are 58 elementary students. Data were collected using questionnaire for characteristic data, hand washing and snacking habit and by examining the feces which taken and brought at the morning as requested. Laboratory testing (Mac Conkey-Sorbitol) was done to identify intestinal bacteria in feces (Elliott, et al., 2013). Collected data are proceed by editing, entry, cleaning, descriptive analysis and it's presented in narration and tables.

## III. RESULTS

### A. Children characteristic

Characteristics of children identified in this study includes sex, age, the number of weekly allowance, and an exposed history of Foodborne Diseases (diarrhea, typhoid fever, hepatitis A). More can be seen in table 1 below.

Table 1. Character Distribution of the Student

No.	Characteristics	Total	Percentage (%)
1.	Sex		
	Male	32	55.2